



sLAB (Strategic Innovation Lab)

2014

Systemic design sharing contexts

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Systemic Design

Sharing contexts

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OCAD University, Toronto

Institute for 21st Century Agoras

ISSS 2014 July 31, 2014

An agenda for Systemic Design

- **Movements in Design & Systems Thinking**
- **Education Movements**
- **RSD3 Symposium**
- **Systemic Design Research**
- **Relationship to Systems Community:**
- **Design Research Methods paper**

Movements in Design Thinking

FAST COMPANY

LESSONS LEARNED -- WHY THE FAILURE OF SYSTEMS THINKING SHOULD INFORM THE FUTURE OF DESIGN THINKING

BY FRED COLLOPY



"You never learn by doing something right 'cause you already know how to do it. You only learn from making mistakes and correcting them."

Russell Ackoff

Design and "design thinking" is gaining recognition as an important integrative concept in management practice and education. But it will fail to have a lasting impact, unless we learn from the mistakes of earlier, related ideas. For instance, "system thinking", which shares many of the conceptual foundations of "design thinking", promised to be a powerful guide to management practice, but it has never achieved the success its proponents hoped for. If systems thinking had been successful in gaining a foothold in management education over the last half of the 20th century, there would be no manage by designing movement, or calls for integrative or design thinking.

Systems thinking, as written about and practiced by Russell Ackoff, C. West Churchman, Peter Checkland and others, contained within it many of the impulses

June 2009

Core Argument – Systems thinking had failed in its aims to transform management.

After 30 years, today's leaders do not show systemic thinking in domains that matter.

Promising movement toward "design thinking" should learn from Systems Thinking here.

Coda: Dr. Collopy now leads Case Western's new school of Design & Innovation at Weatherhead

Oct 15-17: Flourish & Prosper Global Forum for BAWB

Movements in Design Thinking

INTEGRAL PUBLISHERS
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Feature Article: Learning the Lessons of Systems Thinking: Exploring the Gap between Thinking and Leadership

[Download article as PDF](#)



Weatherhead School of Management professor, Fred Collopy, penned a provocative piece in June 2009's Fast Companyblog; an article that deserves a wider hearing and response. In today's fragmentation of venues for committed discourse, I see a fascinating paradox of too many places (blogs) chasing too few great ideas (original thinking, not just the cut-and-paste of most blogs). Ideas as timely as Fred's may not be developed, or even applicable, to scholarly journals, yet the blog genre seems a little insignificant for the impact of the piece. (Located at: <http://www.fastcompany.com/blog/fred-collopy/manage-designing/lessons-learned-why-failure-systems-thinking-should-inform-future>)



Next Stage Facilitation
3-Day Intensives
Montréal, Québec • September 8-10
Boulder, Colorado • October 6-8



TEN DIRECTIONS

[Click to register](#)



Transform Global Management
PURSUE A UNIQUE MA IN
GLOBAL MANAGEMENT

Fall 2009

Core Argument –
Systems thinking did not fail, it never had a chance. Could design be better b/c method ?

Yes, today's leaders aren't systems thinkers

Management *as practiced* is not systemic or design oriented. We are teaching theory they can't use.

Coda: We now teach systemic design & lead student research with social, visual methods

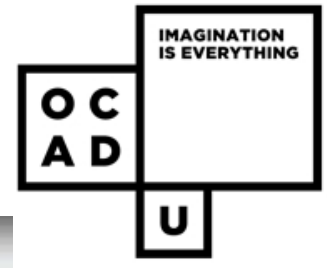
Emerging Educational Movements

- **OCAD University, Toronto**
Master of Design in Strategic Foresight & Innovation
Understanding Systems & Systemic Design
- **Oslo School of Architecture & Design**
MDes & PhD, Systems-Oriented Design
- Curriculum & faculty workshop exchanges
- Cooperative research (e.g. Design Literacy)
- Core methods training:
GIGAmapping, Dialogic Design



Strategic Innovation Lab

slab.ocadu.ca



Research groups

Strategic Innovation Lab (sLab) develops and applies strategic foresight, design research, visualization and prototyping methodologies in order to clarify and feed the front end of the innovation process.

From our base within Canada's largest and oldest university of art and design, we combine deep experience in creative ideation, design thinking and practice with skills in interdisciplinary collaboration, business analysis and strategic planning.

Selected research groups

Envision Health Group

Exploring current and future challenges in healthcare from a design and innovation perspective

Strongly Sustainable Business Model Group (SSBMG)

Economic, social and environmental sustainability from the perspective of business models

SystemCity Group

Navigating complex urban eco-problems with systems thinking, design and visualization

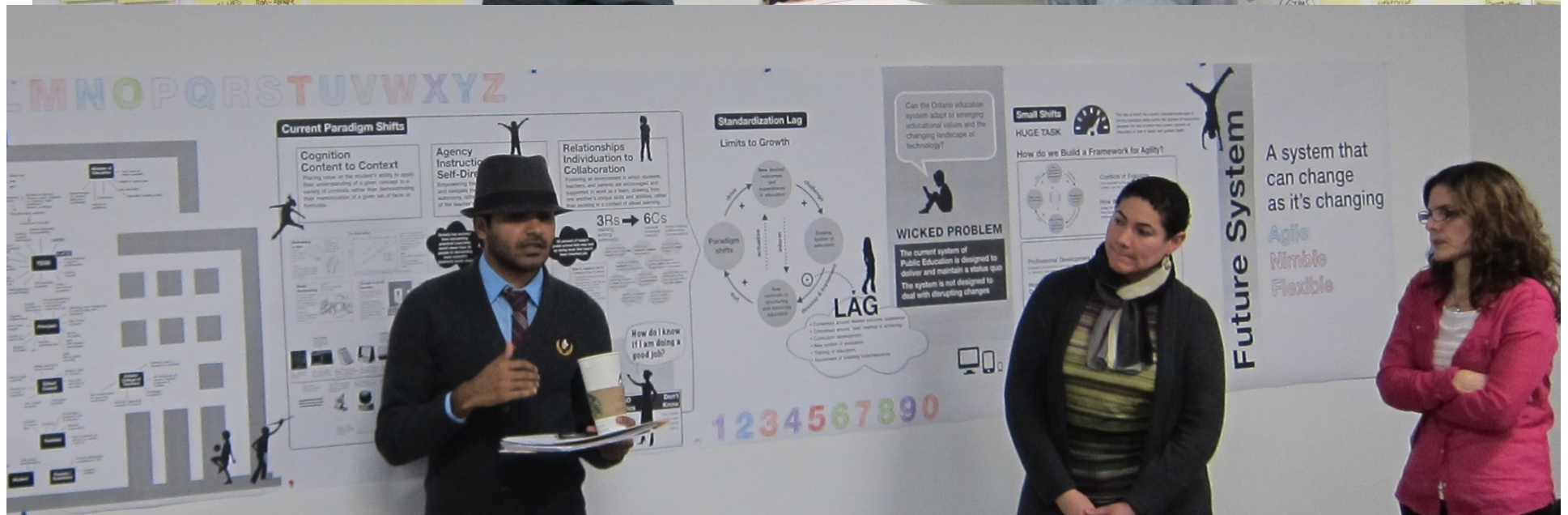
Media Futures Group

Envisioning possible futures in our media ecology, including books, magazines, music, film, video, interactive, social, and transmedia

Course: *Understanding Systems & Systemic Design*

- Systems theory & methods to design systemic interventions, process & services for social and business innovation.
- Understanding natural, sociotechnical & human systems for system change, long-range innovation, and foresight.
- Two sections: 1) Understanding system thinking concepts & tools for expressing models & mapping
2) Social systems methods for socially-responsive design, & innovations expressed as service systems, organizational programs, or information systems.
- Seminar format with lecture, dialogue, simulations, visual modeling, team projects, case study & studio work.

GIGAMap + System Mapping



GIGAMap = System mapping + Innovation Research

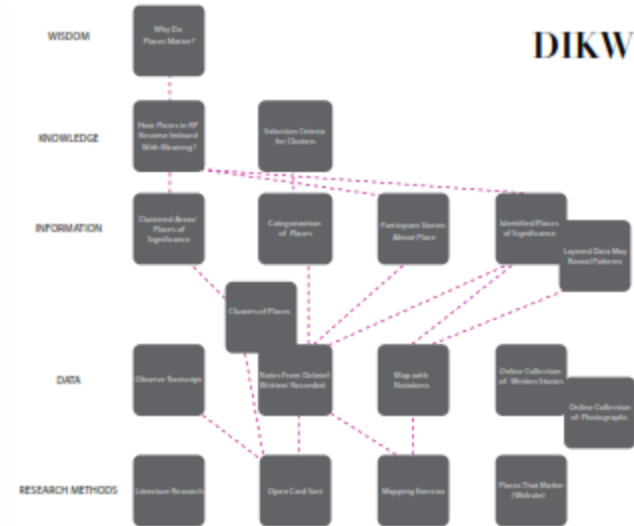


Fig. 1: Data, Information, Knowledge, Wisdom: Understanding Regent Park

Part II: Research Interpretation and Findings

The interpretation and analysis of the research data involved making observations and interpretations, identifying possible implications of the research, drawing conclusions, and generating ideas. The processes by which these were achieved were as follows:

Research Prototyping

Building an initial prototype of our research "kit" and having the opportunity to test it on a fellow classmate (who happened to live in Regent Park) was incredibly valuable to the development of the research methods used with actual participants. Our classmate provided helpful feedback about question wording, areas in need of clarification, and interviewer dynamics.

From this feedback we significantly adjusted both research methods to streamline the exercises and minimize the possibility for confusion or misunderstanding.



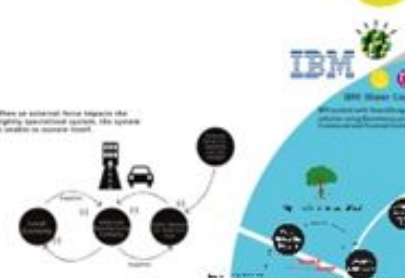
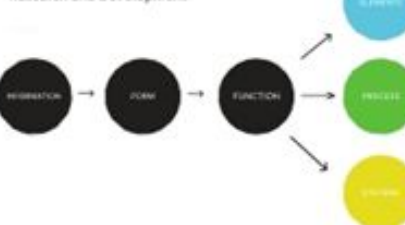
Prototyping with classmate

Biomimicry • •

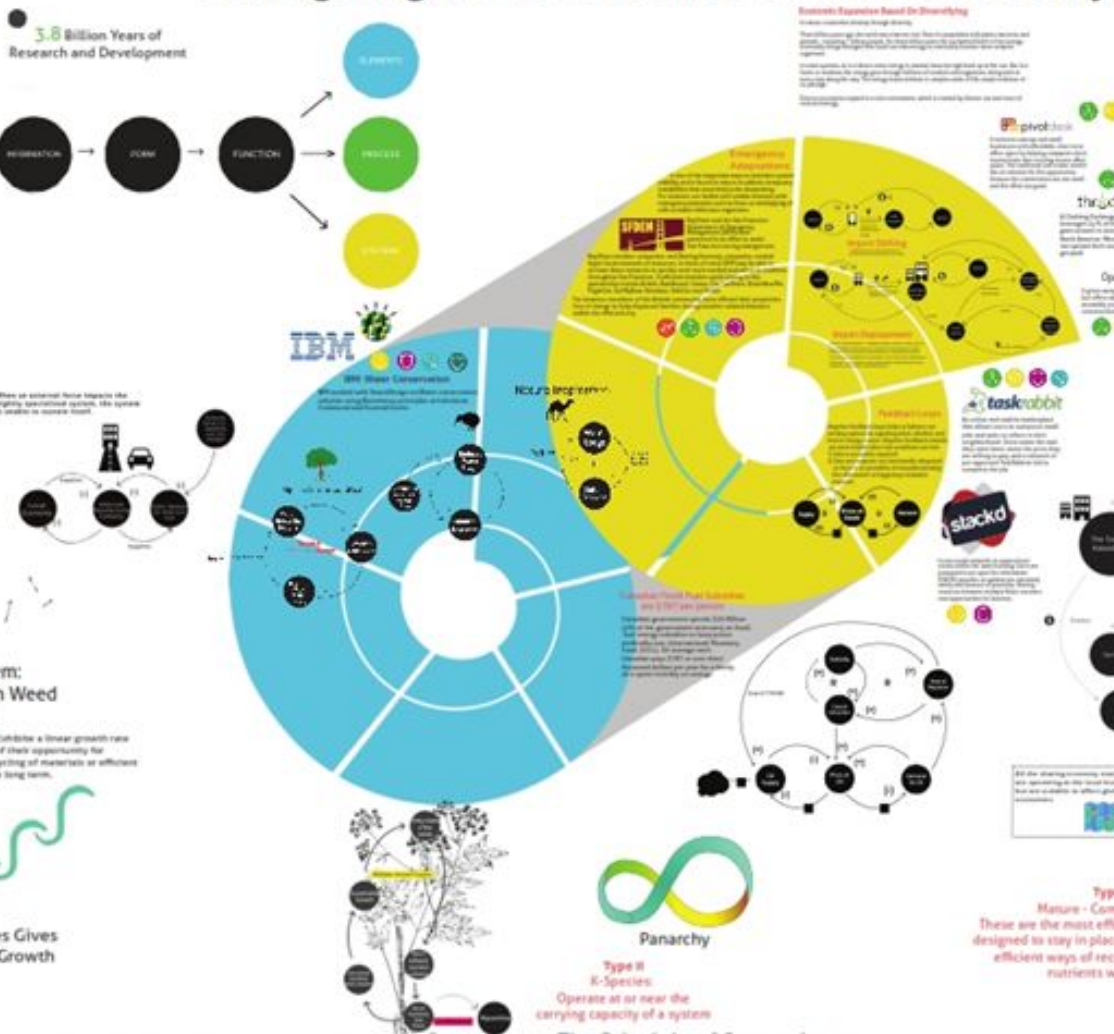
The design process of looking to nature for inspiration, it is the study of how nature operates at all levels, from the inner workings of the cell to the systems view of our biosphere. In all of the Biomimicry of nature, in all organisms on earth, wisdom can be gained from how nature functions. In the elements and systems of earth, information (DNA) is used to grow what which grows function. Through the process of evolution, designs have been created in the dance of life - and it is our role as the designers to discover and decide which solutions fit best with our complex human problems.

- RESILIENCE**
A resilient system adapts to change and maintains its function and structure in the face of disturbance. Resilience is the ability of a system to absorb disturbance and reorganize while undergoing change so as to still retain its essential functions.
- ADAPTATION**
The ability of an organism to change its phenotype in response to changes in the environment. Adaptation is the process by which an organism becomes better suited to its environment.
- EVOLUTION**
The change in the inherited characteristics of populations of organisms over successive generations. The process of evolution is driven by natural selection, which favors the survival of the fittest.
- SYSTEMS THINKING**
A holistic approach to analysis that focuses on the relationships between different parts of a system, rather than on the individual parts themselves. Systems thinking is used to understand the behavior of complex systems.
- WATER SUSTAINABILITY**
The ability to meet the needs of the present without compromising the ability of future generations to meet their own needs. Water sustainability is a key component of sustainable development.
- ENERGY EFFICIENCY**
The ability to use energy in a way that minimizes waste and maximizes the useful output. Energy efficiency is a key goal of sustainable development.

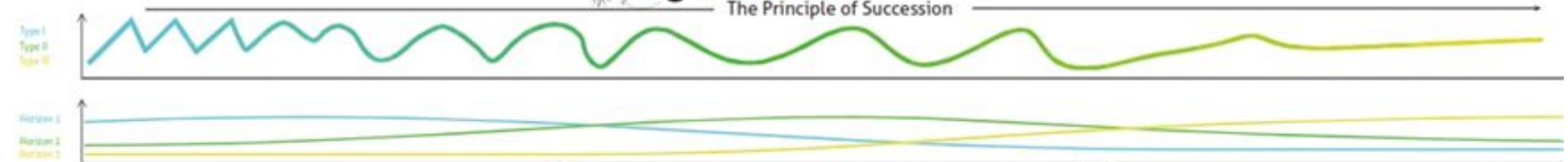
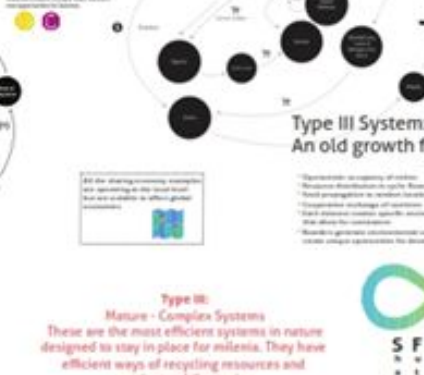
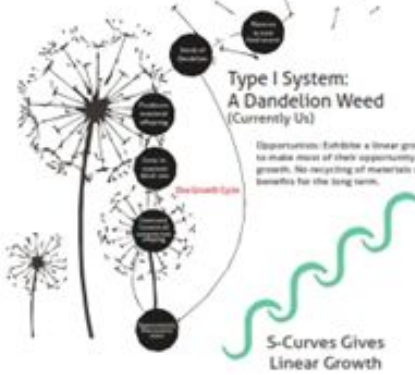
3.8 Billion Years of Research and Development



Reimagining the Future: The Biomimetic Economy



Sharing/Circular Economy



Structured Dialogic Design SM

- Two week workshop as participants in SDD
Triggering Question framed for strategic foresight:
What are the most critical continuous challenges facing humanity over the next 20 years?
- Formulating & analyzing the global problematique.
Employ Ozbekhan's 49 CCPs from the *Predicament*
- Reflective approach to method education:
Students reflect & evaluate during points in process
- Structuring of influence map to produce a new view of the problematique.

Generic Design Science

John Warfield

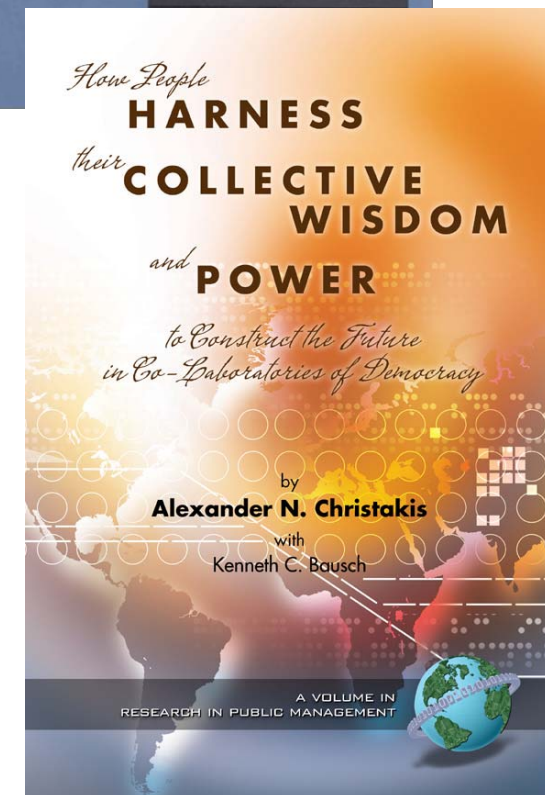
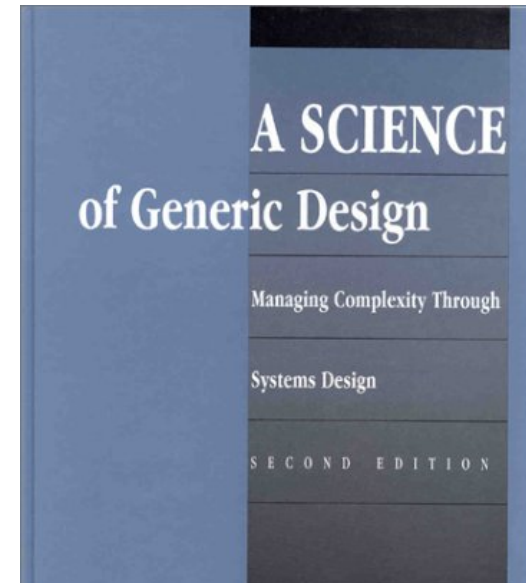
1974 The first group process using computers
Battelle used Warfield's Interpretive Structural Modeling (ISM) software (over phone lines, Dayton & Columbus)

Facilitated by Br. Raymond Fitz, University of Dayton
Became process of *Interactive Management*

Aleco Christakis

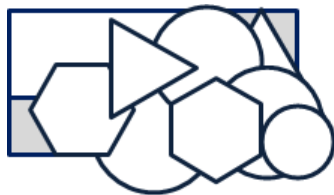
A democratic approach to design science.

*Information Age requires collaborative design
to navigate increasing complexity of situations*



Nominal Steps in SDD

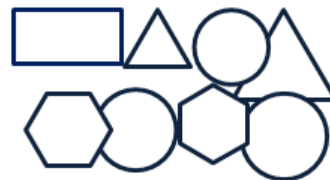
- 1 Idea Generation (Triggering Question)
- 2 Clarification of Ideas
- 3 Amendment & Naming of Clusters
- 4 Voting on Relative Importance
- 5 Influence Mapping
- 6 Cross-impact Mapping



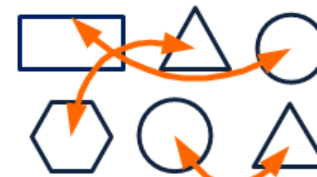
1. Problematic Situation



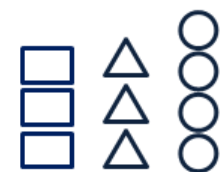
2. Focus & Frame a Triggering Question



3. Articulate Observations (NGT)



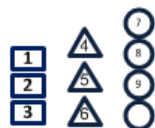
4. Clarify Meaning (Neutral inquiry)



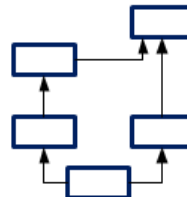
5. Inductively Cluster (Affinity)



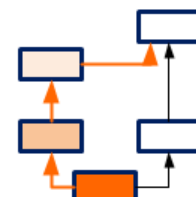
6. Create Shared Language



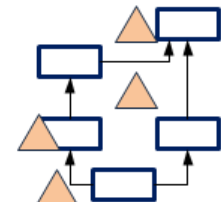
7. Assignment (Voting)



8. Abductively Structure



9. Interpret Learning



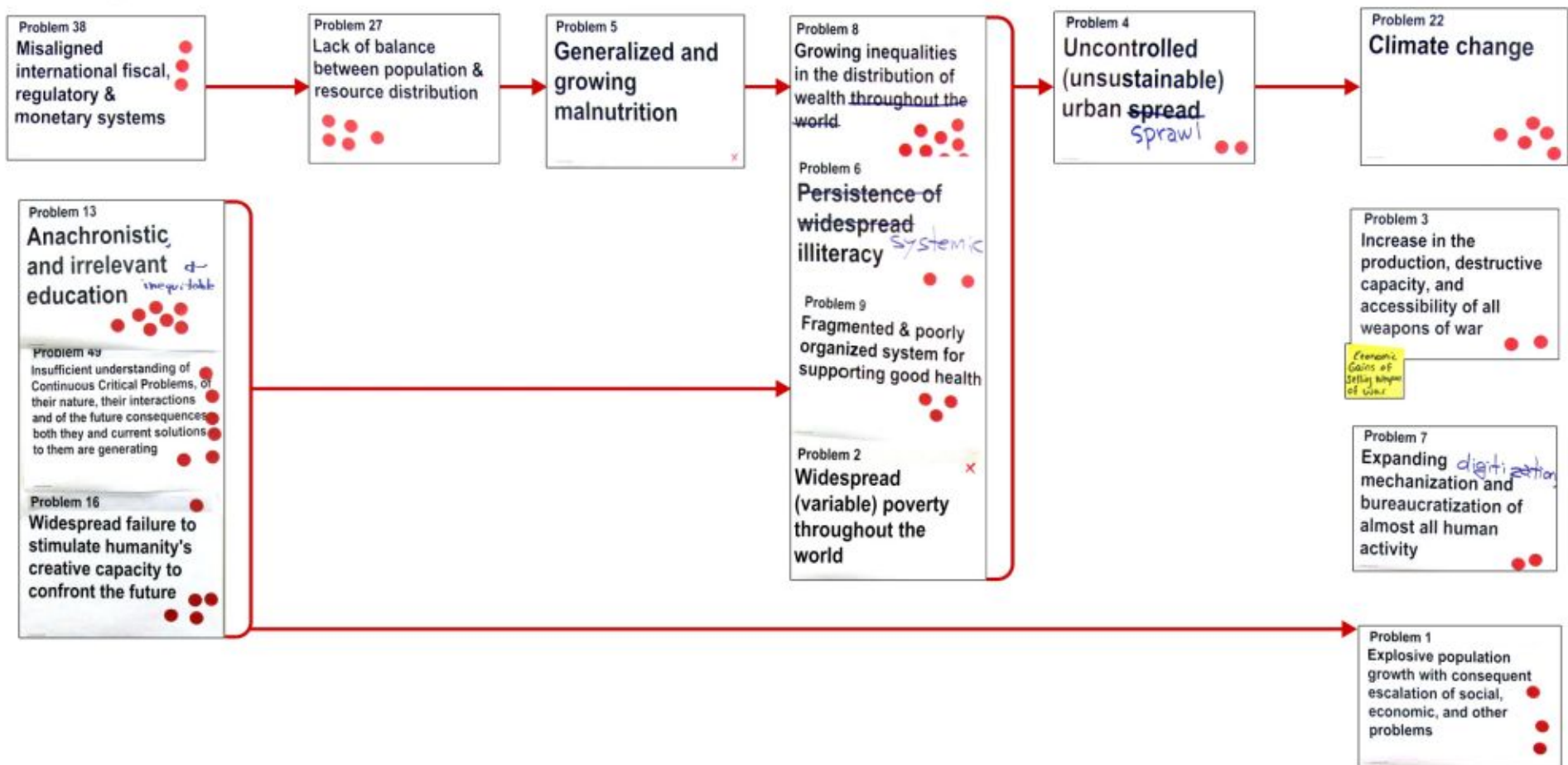
10. Evaluate Cross-Impact



Influence map – Problematique of 49 CCPs

Generated by Cogniscope II & redrawn

What are the most critical continuous challenges affecting global civilization through the next 20 years?



Oslo School of Architecture & Design



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RSD3 Keynote Speakers

Thursday, 10 April 2014 13:35



INSTITUTIONS AND PARTNERS

INSTITUTIONS

Mother institution:



Main research network:



DESIGN ORGANIZATIONS

Relating Systems Thinking to Design 3

systemic-design.net



|| RSD3 2014 Symposium

Following the successful RSD2 symposium last year, RSD3 seeks to engage a wider audience, while still maintaining the lightweight style of a small symposium. **Registration is open** for the RSD3 2014 symposium, which will again take place at the **Oslo School of Architecture and Design**, October 15-17. **Abstracts and workshop proposals are now closed.**

Since last year the organizing committee has co-created an international team to develop collaborative research and curricula, as the **Systemic Design Network**. We are convinced that integrated, more effective systems thinking and methods are required for addressing complex societal concerns – and our observation is that educational programs and design agencies are not providing the skills and knowledge necessary to deal with systemic design issues. We believe a stronger integration with design and design thinking is a promising way forward. Last year's symposium geared up the expectations and increased the enthusiasm.

This year's presenters are sharing significant progress, constructive projects and research that demonstrates or leads deeper impact on society in domains of social conflict and democracy, new economies, healthcare and community well-being, education and ecological flourishing. We are looking for a deeper understanding of the potential for enhancing design practice, as well as developing firm theoretical foundations for a progressive movement.

Behind all of this we wish to reinforce a dialogue on systemic design: *How can we reinvent and innovate the relationship between design and systems thinking?*

We have 5 keynote speakers confirmed as:

- Ranulph Glanville
- Hugh Dubberly
- Ann Pendleton-Jullian
- John Thackara

Systemic Design Research Network

- SDRN a cooperative research group from AHO, Oslo and OCAD U (+ Harold Nelson, Alex Ryan, since 2011)
- Advance systemic design as integrated design discipline
- Advance knowledge, theory, & publications in systems-oriented design & social systems / services design
- Member group of IFSR, active research agendas, an open online (Google group) community.

Relationship to Systems Community

- RSD Symposium gathering attendance ~ 150
(70 abstracts, ~50 papers accepted) systemic-design.net
- Stronger crossovers between design theory & praxis and systems theory & praxis.
- Our students are doing research employing methods (GIGAmap & SDD) in policy, system & service design.
- Suggest ISSS can move toward SIG and outreach in design & (social) innovation worlds, to students & younger researchers.